VEIC Review of

2018-2020 NH Statewide Energy Efficiency Plan

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Residential New Construction

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Characteristics of Success

- Supports deep savings across all fuels (electric, natural gas, and unregulated fuels) and end-uses (HVAC, appliances, lighting).
- Includes water saving design strategies and targets.
- Incentive structure rewards energy savings and renewable energy.
- Includes requirements to document best practices in design, such as properly sized HVAC equipment, building envelop, water management, and indoor air quality ventilation systems.
- Utilizes contractors and verifiers certified to industry recognized standards.

Best Practices for Achieving Success, and Why

- Leverage national standards such as ENERGY STAR Homes and Zero Energy Ready Homes.
- Incentives are structured in tiers or use HERS index to reward savings over code.
- Include prescriptive requirements and incentives for HVAC, lighting, and appliances.
- Energy savings are estimated using REMRate modeling software.
- Ensure quality construction by requiring RESNET certified raters .

Overview of Program Proposed for NH

- Expand program participation by increasing number of certified homes and recruit new builders to program (p. 57)
- Use ENERGY STAR Home as foundation and include multiple tiers (least stringent listed at top):
  - Code plus (based on IECC 2009) (p. 60)
  - ENERGY STAR v 3.0 (based on IECC 2009) (p. 58)
  - ENERGY STAR v 3.1 (based on on IECC 2012) (p. 59)
  - Net Zero Homes (p. 59)
- Continue to provide performance based incentives using RESNET raters and HERS as benchmark and prescriptive rebates for equipment (p. 60)
- Ensure program requirements not overly burdensome (p. 57)
- Explore major renovation offering (p. 60)

Key Aspects of Approach VEIC Supports

- Incorporates ENERGY STAR, RESNET, and HERS index as foundation for program design.
- Offers multiple entry points to meet builders where they are at in an effort to increase participation and recruit new builders.
- Mindful of administrative burden for homebuyers and builders to participate in the program.
- Incentives are performance based to encourage deeper level of efficiency.
- Encourages zero energy construction which has highest level of efficiency and renewable systems to generate annual energy use.

Key Aspects VEIC Does Not Support

- Savings projections are flat across three year period
  - Current new construction code (IECC 2009) has been in effect since April 2010 and will be over 10 years old by end of three year plan. Code adoption is clearly outside of the control of the NH Utilties, but plan does not include discussion of potential adjustments if new more stringent code is adopted.
- Lack of detail on incentive structures
  - NHSAVES RNC web page lists performance based incentive structures, incentive caps, and specifics for MF and SF buildings. The plan has no information on specific dollar values.
  - Plan also lacks information on prescriptive incentives which encourage deeper savings through high efficiency equipment.
- Strategy to move builders from less to more stringent tiers not articulated
  - Would increase energy savings
  - Prepare marketplace for next code cycle
  - Drive toward zero energy

VEIC Recommendations

Recommendations	Rationale
1. Consider limiting participation in code plus tier for each builder.	1. Allowing new builders to participate in code plus for a year or a limited number of homes will help move market to more efficient tiers.
2. Consider offering higher incentives and technical assistance for more stringent tiers.	2. Helps reduce the risk to builders to try new building techniques or equipment technologies.
3. Consider defining zero energy with both an efficiency and renewable energy target.	3. Maximum HERS index before renewables will ensure home is very efficient before sizing renewables.
4. Consider green appraiser training.	4. Including value of efficiency and renewables in home appraisal is critical for financing.

Suggested Improvements for the Draft Document

- Vision for 2018-2020 (p. 57)
  - RNC program strategies, goals, and savings linked to IECC code adoption cycle. Important for utilities to acknowledge the code dynamic even if it is unpredictable.

- Program Budgets and Goals (p. 57)
  - From 2017 to 2018, both kWh and MMBTU savings per participant decrease. The utilities should explain assumptions behind the decrease.
  - Participant numbers go up each year but average savings per home are flat for three years. The utilities should include addition detail on estimated savings and participation rates by tier.

Suggested Improvements for the Draft Document

- Program Design (p. 58)
  - List technologies eligible for prescriptive incentives.
  - Define Code Plus with respect to efficiency and QA/QC.
  - Use consistent language when referring to “zero energy” .
  - Increase detail on zero energy tier (how is zero energy defined? Can homes use natural gas or required to be all electric? Do the homes also meet ENERGY STAR?)
  - Define criteria to evaluate success for major renovation pilot.

- Incentives (p. 60)
  - Include matrix of performance incentives for each tier.
  - Distinguish between single and multifamily building type.
  - Define prescriptive incentives and eligible technologies.

Suggested Improvements for the Draft Document

- Marketing and Outreach (p. 61)
  - Promote non-energy benefits of ENERGY STAR to builders and potential homebuyers.
  - Offer subsidized training for appraisers to gain certification in green appraising which is a standardized way to value efficiency and renewable features.

Other Comments or Ideas

- Zero Energy Modular Program
  - EPA Manufactured Homes Programs program may not move forward.
  - Consider including a Zero Energy Modular program as a replacement for manufactured homes.

For More Information

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